

# BUILDING THE VISION

A Series of AZTech ITS Model Deployment Success Stories for the Phoenix Metropolitan Area

## NUMBER ONE

### Seizing Opportunity

#### Discovering a Cost-Effective Solution for Linking Traffic Centers

##### **The Challenge:**

To achieve its goal of integrating the intelligent transportation infrastructure throughout the Valley of the Sun, AZTech had to build links. AZTech's success is highly dependent on its ability to establish strong links throughout its partnership of public agencies and private companies.

Many of AZTech's separate initiatives were dependent upon the creation of a fully integrated system, with the existing Arizona Department of Transportation's (ADOT) Trailmaster freeway management system's leading-edge telecommunications platform at its core. The heart of the Trailmaster system is a fiber-optics cable network that connects the ADOT TOC (Traffic Operations Center) with traffic-management technology installed throughout the freeway system.

One of the key objectives was to connect the ADOT TOC with the traffic management center (TMC) of the City of Phoenix, a brand new system. This would allow the two centers to exchange a wide range of traffic information and video. The ideal solution would be to create a direct connection between the TOC and the Phoenix TMC, which is based at City Hall in downtown Phoenix. However, the prospects for establishing this link were limited. Laying cable between the two facilities would be both prohibitively costly and a logistical nightmare. "There was no hope to get a physical pathway into downtown Phoenix," said Glenn Jonas, ADOT senior systems engineer. "That was just not an option."

##### **The Solution:**

Identifying a more viable option would require vigilance, ingenuity and good communications. That's where Monica Beeman came in. As a City of Phoenix traffic engineer, Beeman was aware of the need to identify cost-effective alternatives for linking the traffic centers through her participation in multi-agency AZTech meetings. She spread the word to her colleagues at Phoenix City Hall.

"We had discussed with our utilities section the need for a communications connection between City Hall and the ADOT freeway management system," said Beeman. "As it happened, there was a permit application that had just come in from a cable company that was interested in putting fiber-optics cable in some locations that would work for us."

Thanks to the franchise agreement that the City of Phoenix maintains with cable companies, access was attained to four fibers of that cable. Connection points were provided near the ADOT TOC and Phoenix City Hall. "A window of opportunity opened at the right time, and Monica Beeman was astute enough to recognize it," said Pierre Pretorius, AZTech program manager. "That provided us with a high-bandwidth, high-capacity connection at a fraction of the cost of putting one in place by ourselves."

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**The Benefits:**

"This is a great example of a multi-agency approach with everybody actively seeking solutions," said Pretorius. "It really illustrates how by keeping your eyes open, you can capitalize on opportunities."

Having established the critical link, the ADOT TOC and the Phoenix TMC are now able to share traffic information as well as video exchange and control. This proves to be particularly valuable during special events at downtown Phoenix venues such as Bank One Ballpark (home of the Arizona Diamondbacks baseball team) and America West Arena (home of the Phoenix Suns and Phoenix Mercury basketball teams and the Phoenix Coyotes hockey team), when the freeway funnels thousands of motorists into central Phoenix. This connection will also provide for computer-to-computer communications between the traffic centers for traffic-signal coordination. In addition, Phoenix gains access to traffic information and video from neighboring cities that also are connected to the AZTech system.

"It's dedicated fiber, so we can run incredible amounts of data over it at a very fast rate," said Marty Scott, AZTech system integration coordinator. "And it's a viable infrastructure that we can use for many years. To change the technology out, we just have to change the equipment at each end, not the fiber itself."

Most remarkable perhaps is that such a state-of-the-art tool was attained at nominal cost. "Because we're using existing fiber, there is no ongoing communications cost. We didn't have to go out and lease a communications network," said Dan Powell, AZTech chief administrator. For ADOT, the only expense was the short connection between the commercial cable and their own fiber-optics cable. "So for the relatively small cost of what turned out to be about a 400-foot connection, as opposed to laying a cable pathway of 4 1/2 to 5 miles, we were able to get all the way into City Hall," said Jonas.

There is every reason to believe that the connection will continue to yield benefits in years ahead. "There is more fiber available than what we're currently using, and that gives us the ability to make some future connections or expansions if we need them," said Beeman.

The project provides a model of the AZTech principle of spreading benefits by sharing strengths. "It was like a perfect scenario for everyone," said Beeman. "Even the cable company was enthusiastic about being able to say that their cable is providing traffic information for the City of Phoenix and throughout the Valley."

**As an international showcase for state-of-the-art Intelligent Transportation Systems, the AZTech Model Deployment Initiative has documented numerous success stories. To learn more, visit the AZTech home page on the Internet at <http://www.azfms.com>.**